

## Montana Board of Oil and Gas Conservation Environmental Assessment

Operator: G3 Operating LLC  
Well Name/Number: Olson 1-21-16H  
Location: SW SW Section 21 T29N R57E  
County: Roosevelt, MT; Field (or Wildcat) Wildcat

### Air Quality

(possible concerns)

Long drilling time: No, 25-35 days drilling time.

Unusually deep drilling (high horsepower rig): Triple derrick drilling rig to drill single lateral horizontal Bakken Formation test, 19,430' MD/10,070' TVD.

Possible H2S gas production: Yes, slight H2S possible.

In/near Class I air quality area: No Class I air quality area nearby.

Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under 75-2-211.

Mitigation:

☒ Air quality permit (AQB review)

☒ Gas plants/pipelines available for sour gas

☐ Special equipment/procedures requirements

☐ Other: \_\_\_\_\_

Comments: Existing pipeline for H2S gas in the area.

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### Water Quality

(possible concerns)

Salt/oil based mud: Yes to oil based invert drilling fluids for intermediate casing hole. Horizontal hole will be drilled with saltwater. Surface casing hole, freshwater, and freshwater mud system to be used.

High water table: Slight chance of high water table.

Surface drainage leads to live water: Yes, closest drainage nearby is West Shotgun Creek about 1/8 of a mile to the northeast and an unnamed ephemeral tributary drainage to West Shotgun Creek, about 3/8 of a mile to the northwest from this location. Within both drainages are stock ponds.

Water well contamination: No, closest water wells are about 1/2 of a mile to the east, 5/8 of a mile to the east, 3/4 of a mile to the west and 3/4 of a mile to the northwest from this location. Depth of these wells are 15' to 301'. This well will be drilled with freshwater and freshwater mud to 2,000' and steel surface casing will be run and cemented to surface to protect groundwater.

Porous/permeable soils: Yes, sandy silty soils.

Class I stream drainage: No, Class I stream drainages.

Mitigation:

☒ Lined reserve pit

☒ Adequate surface casing

☐ Berms/dykes, re-routed drainage

☐ Closed mud system

☐ Off-site disposal of solids/liquids (in approved facility)

☐ Other: \_\_\_\_\_

Comments: 2,000' surface casing will be drilled with freshwater, steel casing will be run to 2,000' and cemented back to surface. To protect freshwater zones in adjacent water wells. Also, covering Fox Hills aquifer. Adequate surface casing and BOP equipment to prevent problems.

### Soils/Vegetation/Land Use

(possible concerns)

Steam crossings: None anticipated.

High erosion potential: No, location will require a small cut of up to 8.3' and moderate fill of up to 10.1', required.

Loss of soil productivity: No, location to be restored after drilling, if nonproductive. If productive unused portion of this drillsite will be reclaimed.

Unusually large wellsite: No, very large well site 500'X500'.

Damage to improvements: Slight surface use appears to be a CRP land.

Conflict with existing land use/values: Slight

Mitigation

☐ Avoid improvements (topographic tolerance)

☐ Exception location requested

☒ Stockpile topsoil

☐ Stream Crossing Permit (other agency review)

☒ Reclaim unused part of wellsite if productive

☐ Special construction methods to enhance reclamation

☒ Other Requires DEQ General Permit for Storm Water Discharge Associated with Construction Activity, under ARM 17.30.1102(28).

Comments: Access will be over highway 496. New access road will be built into this location, about 300' off the existing highway into this location. Oil based invert drilling fluids will be recycled. Completion fluids will hauled to a commercial Class II disposal. Cuttings and solids will be buried/solidified(fly-ashed) on site in the lined reserve pit. The pit will be allowed to dry and the pit backfilled. No concerns.

### Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Residences about 1 mile to the northeast and 1.75 miles to the southeast from this location. The Town of Froid, MT about 9 miles to the west southwest from this location.

Possibility of H2S: Yes, slight.

Size of rig/length of drilling time: Triple drilling rig 25 to 35 days drilling time.

Mitigation:

☒ Proper BOP equipment

☐ Topographic sound barriers

☐ H2S contingency and/or evacuation plan

☐ Special equipment/procedures requirements

☐ Other: \_\_\_\_\_

Comments: Adequate surface casing cemented to surface with working BOP stack should mitigate any problems.

### Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified.

Proximity to recreation sites: None identified.

Creation of new access to wildlife habitat: No

Conflict with game range/refuge management: No

Threatened or endangered Species: Species identified as threatened or endangered are the Pallid Sturgeon, Interior Lease Tern, Whooping Crane and Piping Plover. Candidate species is the Sprague's Pipit. NH tracker website indicates species of concern is the Baird's Sparrow.

Mitigation:

☐ Avoidance (topographic tolerance/exception)

☐ Other agency review (DFWP, federal agencies, DSL)

\_\_\_ Screening/fencing of pits, drillsite

\_\_\_ Other: \_\_\_\_\_

Comments: Private CRP surface land. No live water nearby. Winter drilling operations anticipated and all birds listed will have migrated out of the area. No concerns.

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### Historical/Cultural/Paleontological

(possible concerns)

Proximity to known sites: None identified.

Mitigation

\_\_\_ avoidance (topographic tolerance, location exception)

\_\_\_ other agency review (SHPO, DSL, federal agencies)

\_\_\_ Other: \_\_\_\_\_

Comments: Private CRP surface land. No concerns.

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### Social/Economic

(possible concerns)

\_\_\_ Substantial effect on tax base

\_\_\_ Create demand for new governmental services

\_\_\_ Population increase or relocation

Comments: Wildcat well. No concerns

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### Remarks or Special Concerns for this site

Plan to a drill wildcat single lateral horizontal Bakken Formation test, 19,430' MD/10,070' TVD.

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### Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected, some short term impacts will occur, but can be mitigated.

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I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/Steven Sasaki

(title:) Chief Field Inspector

Date: December 21, 2010

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website

(Name and Agency)

Roosevelt County water wells

(subject discussed)

December 15, 2010\_\_\_\_\_

(date)

US Fish and Wildlife, Region 6 website

(Name and Agency)

ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA  
COUNTIES, Roosevelt County, Montana

(subject discussed)

December 15, 2010

Montana Natural Heritage Program Website

(Name and Agency)

Heritage State Rank= S1, S2, S3, T29N R57E

(subject discussed)

December 15, 2010\_\_\_\_\_

(date)

If location was inspected before permit approval:

Inspection date: December 21, 2010\_\_\_\_\_

Inspector: Schmidt\_\_\_\_\_

Others present during inspection: None\_\_\_\_\_